

## **ABSTRACT**

A non-parallax optical auto-focusing system focuses an image and determines a distance to an optical target without being prone to errors due to parallax. The system includes a first beam splitter, a second beam splitter, and a lens positioned therebetween on an optical axis. An aiming beam is directed towards an optical target and the redirected reflected beam is received by a quadrant sensor assembly for generating an output signal indicative of a parameter of the redirected reflected aiming beam. A processor receives the output signal and generates a control signal for actuating an actuator to reposition the lens. The system continues to position the lens until the measured parameter is within a predetermined range for optimally focusing the optical target on an image sensor. The distance to the optical target is determined by using a look-up table to correlate the measured parameter to the distance to the optical target.